

REMARKS

The present amendment is submitted in response to the Non-Final Office Action mailed October 28, 2008 (the "Office Action").

Status of Claims

Claims 1-11 are pending in this application. Claims 1, 3, 4 and 11 have been amended. No new matter has been added by virtue of the amendments. In view of the amendments above and the remarks to follow, reconsideration and allowance of this application are respectfully requested.

Interview Summary.

Applicants appreciate the courtesy granted to Applicant's attorney, Michael A. Scaturro (Reg. No. 51,356), during a telephonic interview conducted on Monday, January 26, 2009. During the telephonic interview, independent Claims 1, 3 and 11 were discussed. Applicant's attorney provided a proposed amendment to claim 1. Agreement was reached to add additional descriptive language into independent claims 1, 3 and 11. The Examiner will issue an interview summary stating the same.

Specification

In the Office Action, the Specification was objected to for a non-descriptive title. The title has been replaced with a new title in accordance with the Examiner's recommendation with minor modification. It is believed the new title is clearly indicative of the invention to which the claims are directed. Withdrawal of the objection is respectfully requested.

Claim Objections

Claim 4 was objected to because it recites "A positioning system as claimed in claim 3 including a base station operable as a location measurement unit for E-OTD type positioning." The Office asserts that E-OTD type is indefinite because it can possibly include other location/observed time difference techniques. Applicant has amended claim 4 in a manner which is believed to overcome the stated objection by removing the word "type" from the claim. Accordingly, withdrawal of the objection is respectfully requested.

Rejections under 35 U.S.C. §103(a)

A. Claim 1 is allowable

The Office has rejected Claim 1 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,788,947 – Becker et al. in view of U.S. Patent No. 5,640,678 – Ishikawa et al. and further in view of U.S. Patent Application Publication No. 2006/0217120 – Annunziato et al. Applicants respectfully traverse the rejection.

The cited portions of Becker, Ishikawa and Annunziato, individually or in combination, fail to disclose or suggest the specific combination of claim 1. For example, the cited portions of Becker fail to disclose or suggest, "*prior to positioning the two or more base stations within a selected environment, symmetrically docking together said two or more base stations at a single symmetrically docketed position*", as recited in claim 1 (Emphasis Added).

In contrast to claim 1, the cited portions of Becker disclose a method for synchronization of base stations which are coupled to different switching system parts, for example to different switching devices or network nodes in a communications network. As shown in Fig. 1 of Becker, for purposes of synchronization, a second base

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station, coupled to a second switching part, is set up within radio range of a first base station, which is coupled to a first switching system part. Fig. 1 illustrates that the switching devices, and first and second base station of Becker are not symmetrically docked together at a single symmetrically docketed position, as recited in claim 1, but are instead geographically dispersed, but within radio range. It is respectfully submitted that symmetrically docking together two or more base stations at a single symmetrically docketed position is different from a plurality of base stations being geographically disbursed, but within radio range. Accordingly, Becker does not disclose, "*prior to positioning the two or more base stations within a selected environment, symmetrically docking together said two or more base stations at a single symmetrically docketed position*", as recited in claim 1 (Emphasis Added).

Further, it is respectfully submitted that the cited portions of Becker also fail to disclose, "*quantifying and recording clock offset information between each of said two or more docked base stations with respect to a center reference base station at said single docked position*", as in claim 1.

To further describe this element of claim 1, in accordance with a method embodiment of the invention, one way in which clock offset information is quantified and recorded is in an installation mode whereby a plurality of base stations (e.g., BS1 to BS6) each send a signal to a center reference base station BS0. The center reference base station, BSO, compares measured times of flight of the received signals from base stations BS1 to BS6 to the expected times of flight and calculates the difference. This difference provides clock offset information of any base station (BS1 to BS6) compared to the clock of the center reference base station, BSO.

In contrast to this element of claim 1, the cited portions of Becker disclose that during startup, a switching node VKA, which is configured as a synchronization source

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Q, first transmits a control message SMS to the base stations BA1, BA2 and BA3. It should be appreciated that the switching node VKA, is not equivalent to a center reference base station, BSO. The control message SMS initializes the base stations BA1, BA2 and BA3 during a DECT (Digital Enhanced Normal Telephony) normal mode, in which the base stations BA1, BA2 and BA3 can be caused to transmit radio frames on receiving a synchronization signal. The switching node VKA then transmits such a synchronization signal SS1 to the connected base stations BA1, BA2 and BA3, causing them to transmit radio frames which are aligned in time with the received synchronization signal SS1. The synchronization signal SS1 synchronizes the base stations BA1, BA2 and BA3 to one another.

It is respectfully submitted that quantifying and recording clock offset information between a plurality of base stations relative to a center base station by measuring times of flight of the received signals from base stations BS1 to BS6 to the expected times of flight with respect to the center base station and calculating the difference is different from the method of Becker, in which a switching node VKA, is configured as a synchronization source Q for the purpose of transmitting a synchronization signal SS1 to the connected base stations BA1, BA2 and BA3, causing them to transmit radio frames which are aligned in time with the received synchronization signal SS1.

Accordingly, Becker fails to disclose "*quantifying and recording clock offset information between each of said two or more docked base stations with respect to a center reference base station at said single docked position*", as in claim 1.

The cited portions of Ishakawa and Annunziato are not cited for teaching this element of claim 1 and therefore fail to disclose or suggest, "*prior to positioning the two or more base stations within a selected environment, symmetrically docking together said two or more base stations at a single symmetrically docketed position*", and "*quantifying*

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and recording clock offset information between each of said two or more docked base stations with respect to a center reference base station at said single docked position", as in claim 1 (Emphasis Added).

Ishakawa is cited by the Office for teaching in the background, relocating one or more of the base stations to their fixed, operational positions. Ishakawa discloses that in the case of changing the zone configuration, reshuffle and changing of microcell base stations is easily done. However, it is respectfully submitted that Ishakawa does not teach relocating one or more of the base stations from said single docketed position to their fixed, operational positions, as recited in claim 1. Instead, Ishakawa teaches that a zone configuration change is from a first operational position to another operational position, (i.e., reshuffling). See, Ishakawa, col. 2, lines 14-18).

Annunziato is cited by the Office for teaching a measurement method for planning cellular communication networks to optimize network topology including location-based measurements of distance.

Thus, the cited portions of Becker, Ishakawa and Annunziato, individually or in combination, do not disclose or suggest "*prior to positioning the two or more base stations within a selected environment, symmetrically docking together said two or more base stations at a single symmetrically docketed position*", and "*quantifying and recording clock offset information between each of said two or more docked base stations with respect to a center reference base station at said single docked position*", as in claim 1 (Emphasis Added). Hence claim 1 is allowable.

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B. Claim 2 is allowable

In the Office Action, Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Becker, Ishikawa and Annunziato above and further in view of U.S. Patent Application Publication No. 2002/0187749 (“Beasley”). Applicants respectfully traverse the rejection.

As explained above, the cited portions of Becker, Ishikawa and Annunziato individually or in combination, do not disclose or suggest each and every element of claim 1 from which claim 2 depends. Beasley does not disclose each of the elements of claim 1 that are not disclosed by Becker, Ishikawa and Annunziato. For example, Beasley does not disclose or suggest “*prior to positioning the two or more base stations within a selected environment, symmetrically docking together said two or more base stations at a single symmetrically docketed position, and “quantifying and recording by a center reference base station at said single docked position any lack of synchronization between the respective clocks of the base stations”*”, as recited in claim 1 (Emphasis Added).

Beasley is cited by the Office for disclosing a wireless base station to base station synchronization method wherein neighboring base stations learn whether each other has accomplished slot assignment. If not, record each other as neighbors, and later become synchronized. It is submitted that disclosing a synchronization method is different from disclose or suggest “*prior to positioning the two or more base stations within a selected environment, symmetrically docking together said two or more base stations at a single symmetrically docketed position, and “quantifying and recording by a center reference base station at said single docked position any lack of synchronization between the respective clocks of the base stations”*”, as recited in claim 1 (Emphasis Added).

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Thus, the cited portions of Becker, Ishakawa, Annunziato and Beasley, individually or in combination, do not disclose or suggest does not disclose or suggest “*prior to positioning the two or more base stations within a selected environment, symmetrically docking together said two or more base stations at a single symmetrically docketed position*”, and “*quantifying and recording by a center reference base station at said single docked position any lack of synchronization between the respective clocks of the base stations*”, as recited in claim 1 (Emphasis Added). Hence claim 1 is allowable and claim 2 is allowable, at least by virtue of its respective dependence from claim 1.

C. Claims 3, 5-7 and 10 are allowable

In the Office Action, Claims 3, 5-7 and 10-11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Becker in view of U.S. Patent No. 5,862,477 (“Wellard”). Applicants respectfully traverse the rejection.

As explained above, the cited portions of Becker do not disclose or suggest each and every element of claim 1. Independent Claim 3 recites similar subject matter as Claim 1 and therefore contains the limitations of Claim 1. Therefore, Becker does not disclose or suggest each and every element of claim 3. For example, Becker does not disclose “*means for symmetrically docking together said plurality of base stations at a single symmetrically docketed position*”, and “*means for quantifying and recording by a center reference base station at said single docked position clock offset information between the respective clocks of the plurality of base stations with respect to the center reference base station*”, as recited in claim 3.

Wellard does not disclose each of the elements of claim 3 that are not disclosed by Becker. For example, Wellard does not disclose or suggest “*means for symmetrically docking together said plurality of base stations at a single symmetrically docketed position*”, and “*means for quantifying and recording by a center reference base station*

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at said single docked position clock offset information between the respective clocks of the plurality of base stations with respect to the center reference base station",, as recited in claim 3.

In contrast to claim 3, Wellard is cited by the Office for disclosing means for determining the relative separation of the base stations when relocated to their fixed positions, and means for recording a configuration of the system defined by the relative separations of the base stations. Wellard is also cited by the Office for disclosing a topology verification process for controlling a personal communication services system.

It is respectfully submitted that the cited disclosure of Wellard does not disclose "*means for symmetrically docking together said plurality of base stations at a single symmetrically docketed position*", and "*means for quantifying and recording by a center reference base station at said single docked position clock offset information between the respective clocks of the plurality of base stations with respect to the center reference base station*",, as recited in claim 3.

Thus, the cited portions of Becker and Wellard individually or in combination, do not disclose or suggest does not disclose or suggest "*means for symmetrically docking together said plurality of base stations at a single symmetrically docketed position*", and "*means for quantifying and recording by a center reference base station at said single docked position clock offset information between the respective clocks of the plurality of base stations with respect to the center reference base station*",, as recited in claim 3. Hence, claim 3 is allowable.

Claims 5-7 and 10 depend from independent Claim 3 and therefore contain the limitations of Claim 3 and are believed to be in condition for allowance by virtue of their dependency from Claim 3.

C. Claim 11 is allowable

Independent Claim 11 recites similar subject matter as Independent Claims 1 and 3 and therefore contain the limitations of Claims 1 and 3. Hence, for at least the same reasons given for Claims 1 and 3, Claim 11 is believed to recite statutory subject matter under 35 USC 103(a).

D. Claim 4 is allowable

In the Office Action, Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Becker and Wellard and further in view of "Vehicular Technology Conference Proceedings, VTC 2001 Fall. IEEE VTS 54 titled "Observed time difference (OTD) estimation for mobile positioning in IS-136 in the presence of clock drift" (Wylie-Green et al.). Applicants respectfully traverse the rejection.

As explained above, the cited portions of Becker and Wellard, individually or in combination, do not disclose or suggest each and every element of claim 3 from which claim 4 depends. VTC 2001 does not disclose each of the elements of claim 3 that are not disclosed by Becker and Wellard. For example, VTC 2001 does not disclose or suggest "*means for symmetrically docking together said plurality of base stations at a single symmetrically docketed position*", and "*means for quantifying and recording by a center reference base station at said single docked position any lack of synchronization between the respective clocks of the plurality of base stations*", as recited in claim 3.

Instead, VTC 2001 is cited for disclosing a positioning method where a base station transceiver is used to measure an E-OTD. Therefore, claim 3 is allowable over the asserted combination of Becker, Wellard and VTC 2001 and claim 4 is allowable, at least by virtue of its respective dependence from claim 3.

E. Claims 8 and 9 are allowable

In the Office Action, Claims 8 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Becker and Wellard and further in U.S. Patent No. 6,246,883 ("Lee"). Applicants respectfully traverse the rejection.

As explained above, the cited portions of Becker and Wellard, individually or in combination, do not disclose or suggest each and every element of claim 3 from which claims 8 and 9 depend. Lee 2001 does not disclose each of the elements of claim 3 that are not disclosed by Becker and Wellard. For example, Lee does not disclose or suggest "*means for symmetrically docking together said plurality of base stations at a single symmetrically docketed position*", and "*means for quantifying and recording by a center reference base station at said single docked position any lack of synchronization between the respective clocks of the plurality of base stations*", as recited in claim 3. Rather, Lee is cited for disclosing a positioning system wherein the base stations are removably dockable to each other or removably dockable about the reference base station. However, upon a close reading of Lee, it is apparent that Lee does not disclose a positioning system where base stations are removably dockable about a reference base station. Instead, Lee teaches a mobile station (not a base station) is dockable to a control station (not a reference base station) for the purpose of transferring information between the two. It is respectfully submitted that this is different from "*means for symmetrically docking together said plurality of base stations at a single symmetrically docketed position*", and "*means for quantifying and recording by a center reference base station at said single docked position any lack of synchronization between the respective clocks of the plurality of base stations*", as recited in claim 3. Therefore, claim 3 is allowable over the asserted combination of Becker, Wellard and Lee and claims 8 and 9 are is allowable, at least by virtue of their respective dependence from claim 3.

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Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-11 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Mike Belk, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-945-6000.

Respectfully submitted,



Michael A. Scaturro
Reg. No. 51,356
Attorney for Applicant

Mailing Address:
Intellectual Property Counsel
Philips Electronics North America Corp.
P.O. Box 3001
345 Scarborough Road
Briarcliff Manor, New York 10510-8001